DOCUMENT RESUME

ED 422 388 TM 028 950

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TITLE Policy, Politics, and Contradictions of Alternative Teacher Certification.

PUB DATE 1998-04-16

NOTE 21p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Diego, CA, April 13-17, 1998).

PUB TYPE Information Analyses (070) -- Reports - Descriptive (141) -- Speeches/Meeting Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS *Alternative Teacher Certification; *Educational Policy; Educational Theories; Elementary Secondary Education; *Human Capital; Nontraditional Education; *Political Influences; State Programs; *Teacher Education Programs; Teacher Qualifications; Teacher Shortage

IDENTIFIERS Stakeholders

ABSTRACT

This paper presents a review of theory and research dealing with alternative teacher certification policy. It begins by examining the context for alternative teacher certification through the lens of Human Capital Theory. It defines alternative certification and describes the history and present status of alternative certification policies. The research on the effectiveness of alternative certification is summarized, and contradictions in the effects of alternative certification policies on different stakeholder groups are identified. Data were obtained through a review of literature and research. They reflect a national view, with some state examples that include North Carolina and Texas. An initial search of the ERIC database yielded the original data, and additional sources were added. Alternative certification has been broadly defined as a method of entry into the teaching profession that does not require the completion of a traditional teacher education program. Some alternative certification programs are no more than provisions for emergency or provisional certification, but others provide training for liberal arts graduates who wish to teach and earn standard certification. Interest in alternative certification programs seems to be rooted in a need to address declining numbers of teachers, a concern with the quality of individuals who choose teaching as a career, and a desire on the part of the general public to allow entry into teaching by individuals perceived to have skills needed by the schools. Research reveals increasing numbers of alternative routes for preparing teachers. All states currently have some program other than the traditional teacher certification route to teaching. Alternative certification programs allow individuals to enter the teaching profession with different stocks of human capital as a result of their investment in either a liberal arts or traditional teacher education program. At this time, the research base comparing the quality of alternatively and traditionally certified teachers is not large, but studies to date have generally found few differences between alternatively and traditionally certified teachers. Some implications of alternative certification programs are discussed. (Contains 75 references.) (SLD)

ED 422 388

POLICY, POLITICS, AND CONTRADICTIONS OF ALTERNATIVE TEACHER CERTIFICATION

A Paper Presented at the Annual Conference of the
American Educational Research Association

San Diego

April 16, 1998

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POLICY, POLITICS, AND CONTRADICTIONS OF ALTERNATIVE TEACHER CERTIFICATION

Every summer, and to some extent throughout the school year, personnel directors in public school districts across the nation are faced with hiring new teachers. Though "new teachers" are often thought of as traditional new graduates of teacher education programs in their early twenties, this is not always the case. The percentage of public school teachers in the United States in their twenties is decreasing, and almost half are over 45, compared to 34 percent in 1986 and 27 percent in 1990 (Feistritzer & Chester, 1996, p. 9). Henke, Geis, and Knepper (1996) found that one-third of education graduates do not teach immediately following graduation. Almost one-fourth of the public school teachers surveyed by Feistritzer and Chester (1996) reported pursuing other occupations during the year before they entered teaching. Twenty-nine percent of teachers surveyed did not hold a batchelor's degree in education, compared to 35 percent in 1990 and 26 percent in 1986 (p. 23).

Policy makers continue to make decisions regarding requirements for teaching in each state. An increasing number of states have implemented policies that allow college graduates without professional training in education to enter teaching through alternative routes. These candidates begin teaching while they pursue standard certification. They may or may not receive some training before they assume full responsibility in the classroom. Feistritzer (1997) reported "rapid development" of alternative routes at the state level:

- By 1997, 41 states and the District of Columbia were operating teacher certification programs that provided alternatives to traditional approved college teacher preparation programs;
- States reported 117 additional alternative programs sponsored by colleges and universities; and
- More than 75,000 teachers were estimated to have been licensed through state alternative programs. This number did not include thousands more in alternative programs sponsored by colleges and universities (Feistritzer, 1997, p. 2).

As interest and participation in alternative certification programs continue to grow, state education agencies and teacher education institutions must respond to the alternative routes to teaching which are established by policy makers. Some view these alternatives as positive means of attracting talented candidates to careers in teaching. The general public, and teachers themselves, tend to question the value of professional preparation. Seventy-three percent of teachers surveyed reported that courses in their teaching area were "very valuable," but only 37 percent said that education courses and inservice activities were "very valuable" (Feistritzer & Chester, 1996, p. 21). Others are concerned about the possible negative impact of alternative routes to teaching on student learning (Burke, 1998). They question the quality of teaching performance that can be expected of candidates who have not completed a teacher preparation program nor had an opportunity to develop the pedagogy which lies at the heart of traditional teacher education.

This paper presents a review of theory and research dealing with alternative certification policy. It begins by examining the context for alternative teacher certification through the lens of Human Capital Theory. It defines alternative certification and describes the history and present status of alternative certification policies. The research on the effectiveness of alternative certification is summarized, and contradictions in the effects of alternative certification policies

on different stakeholder groups are identified. Data were obtained through a review of literature and research. They reflect a national view, with some state examples including North Carolina and Texas. An initial ERIC search, using the terms beginning teacher, teacher certification, and alternative certification, yielded the original data for this review. Other promising references cited in original articles were added.

The Economic Context for Alternative Routes to Teaching

Human Capital Theory provides an interesting lens for examining interest in and results of alternative teacher certification programs for college graduates who did not choose a traditional teacher preparation program. Theodore Schultz (1971) proposed that skills and knowledge, acquired as a result of deliberate investment in education, are a specific form of "human capital" that is important in economic development. Individuals increase their "stock" of human capital through formal schooling, formal vocational education, and on-the job training or staff development. At any given time, the value of someone's stock of human capital "depends on whether it has been properly used, on its age, on the depreciation and obsolescence it has been subject to, and on the extent to which it contains maldistributions for reasons of supply and demand" (Schultz, 1970, pp. 35-36). Schultz proposed that people invest in themselves through education in order to have more choices, higher earnings, and greater satisfactions. Those investments can be expensive. In addition to actual educational costs, earnings lost by not directly entering the job market and career flexibility lost by early specialization must be considered. If the economy and employment conditions are changing, and movement from one career to another is common, long-term returns on investments in human capital are difficult to project. Under those conditions, Schultz (1971) suggested "staying with general education longer than would be warranted if there were no uncertainty with respect to future earnings from investment in education" (p. 168).

Individuals enter the teacher labor market with unique sets of inherited attributes and acquired knowledge and skills. Evidence that the teacher labor market continues to decline in size and quality has been explained in different ways, and proposed solutions vary (Darling-Hammond, 1990). Weaver (1981) argued that lowered standards for entry into traditional teacher education, a response to shrinking enrollments, were responsible for the declining quality of the teacher labor pool. Schlechty and Vance (1981, 1983) felt that teaching was no longer an attractive career choice for talented individuals, and Levin (1984) pointed to the single salary schedule that failed to recognize each teacher's unique stock of human capital and its value in the labor market.

Human Capital Theory provides another possible explanation for the decline in quality of the teacher labor pool. It appears that individuals who complete a liberal arts education before pursuing teacher education may possess more human capital than those who pursued specialized undergraduate teacher education. The liberal arts graduates pursued a broader course of study that could facilitate their career mobility over a lifetime. Both groups, graduates of traditional teacher preparation programs and graduates of liberal arts programs, have invested in four years of education to increase their stocks of human capital. Both groups expect future choices, earnings, and satisfactions. Both groups incurred educational costs and lost earnings as a function of the time outside the labor market while they were enrolled in their undergraduate programs. If one program is more interesting or satisfying than the other, those costs or rewards should also be considered.

Teacher education graduates have pursued a specialized course of study designed to develop professional knowledge and skills that they expect to be valued and rewarded in their chosen profession. In contrast, liberal arts graduates have added to their stock of human capital the value of extended general education. Upon graduation, with the increasing availability of alternative certification programs, members of either group may enter teaching. If financial rewards are identical for both groups, they fail to recognize the traditionally prepared teachers' specialized stock of professional training and skill.

With its government subsidies, education is not an open market, and its monetary benefits are relatively low. Teacher salary levels are influenced more by fluctuations in student populations, the state legislature's sense of teachers' worth, and the program priorities within each state than by supply and demand forces (Anthony, 1987, p. 12). In such a depressed market, human capital theory predicts that simply opening alternative routes to teacher certification will not improve the quality of the teacher labor pool. Not only will the specialized stock of human capital inherent in teacher education programs be less valuable, but the low, undifferentiated salaries will fail to attract higher quality labor. In fact, Grissmer and Kirby (1997) noted that differentiation of teacher salaries by years of experience and degrees held, without regard to quality, "robs the profession of an enlarged pool of high-quality entrants, the opportunity for a more rigorous course of study, a higher proportion of higher-quality teachers within the profession, and a more equitable distribution of high-quality teachers across school districts" (p. 54).

However, if other job markets are depressed and non-traditionally prepared personnel are allowed to enter teaching at less cost, then allowing teacher candidates to bypass the professional preparation program should increase the size of the teacher labor pool. There could be a similar effect if alternative candidates perceive the intrinsic rewards of teaching as a career to he high. If it is true that liberal arts graduates are more "able" as a group than those who choose teaching (Darling-Hammond, 1990; Schlechty & Vance, 1981; Vance, 1981; Weaver, 1981), it follows that the quality of the teacher labor pool will be increased as well.

The Practice of Alternative Certification

Alternative certification has been broadly defined as a method of entry into the teaching profession that does not require completion of a traditional teacher education program. Alternative certification is not a new concept. The basic requirement of a four-year degree represents a return to a minimum standard for teacher certification that evolved in the mid-1900s and suggests that additional requirements such as testing and program approval have not been widely perceived as improvements (Descamps & Klingstedt, 1985). Clark and McNergney (1990) found an interesting level of uniformity in certification standards nationally even though roles of state education agencies and teacher education programs in determining certification requirements have varied by state and over time, and differences of opinion about the place of professional training within the four-year degree program persist. Alternative certification is an example of a national issue that is addressed by each state separately, but in similar ways.

What forms does it take?

Some alternative certification programs are no more than provisions for emergency or provisional certification. Others provide training for liberal arts graduates who wish to teach and earn standard certification. Alternative certification programs differ from traditional teacher preparation programs and from each other in the nature and length of the professional training component (Roth, 1986). Compared to traditional teacher preparation programs, alternative

programs appeal to a different target audience. Ideally, they strive for similar levels of "content, rigor, and expected outcomes" (Smith, Nystrand, Ruch, Gideonse, & Carlson, 1985, p. 1). In fact, the AACTE (1989) advocated an extensive selection process and the same testing and content requirements for alternatively and traditionally certified teachers.

A recent directory of postbaccalaureate programs for individuals interested in alternative paths to teaching described 328 different programs representing all 50 states (AACTE, 1996). Generally, there are three broad categories of alternative certification programs: some are linked to graduate study and internships; others provide some professional education before classroom teaching begins; and a few allow candidates to assume teaching responsibilities without any preparation. Responsibility for the professional training of program participants and for the eventual recommendation for certification can rest with the local school system, a teacher education program, or the state agency. In some cases, responsibilities are shared collaboratively.

What concerns does it address?

Recurring interest in alternative certification programs seems to be rooted in three major issues: a need to address declining numbers of available teachers; a concern with the quality of individuals who do choose teaching as a career; and a desire on the part of the general public to allow entry into teaching by individuals perceived to have skills needed by the schools.

The size of the teacher labor pool. Alternative certification policies are often suggested in response to teacher shortages, even though the "elusiveness of demand and the complexity of supply" (Fox, 1987, p. 51) make teacher shortages are difficult to assess. The teacher labor pool includes graduates of teacher education programs, a reserve pool of certified individuals who are not currently teaching, and others who can be certified through alternative routes. The characteristics of the reserve pool and the potential for those individuals to reenter teaching must be determined if projections of teacher supply are to be accurate (Sweet & Jacobsen, 1983).

Teacher demand is a function of population waves, enrollment levels, teacher turnover, and state and local policies which alter teacher/pupil ratios or create new programs and initiatives. Demand is also qualified by differences in specific definitions used for such concepts as "vacancy," "turnover," and "qualifications." Shortages occur when supply does not meet demand. During the 1980s, projections generally indicated a need for well over one million new teachers by the mid-1990s (Haggstrom, Darling-Hammond, & Grissmer, 1988; NEA, 1986). Annual increases in the hiring of new teachers were expected to range from 233,000 in 1990 to a high of 243,000 in the year 2000 (Ogle, 1990), and there was increasing concern that the size of the teacher labor pool will be inadequate to meet those demands.

Also in the 1980s, increases in elementary enrollment were accompanied by decreasing college enrollments and changes in educational policies and labor force behaviors (Haggstrom, Darling-Hammond, & Grissmer, 1988). Salary levels for teachers remained low, with teachers completing more years of college, but earning less than other college-educated workers (Haggstrom, Darling-Hammond, & Grissmer, 1988); and salary schedules continued to reward experience over talent (Levin, 1984). Darling-Hammond (1984) observed that teachers were growing less satisfied with their career choice, with the greatest dissatisfaction among the most qualified. Those with regrets were unlikely to encourage others to enter teaching (Berry, 1985), and the results caused particular concern at a time when interest in education majors and careers was declining (Astin, Green, & Korn, 1987; Haggstrom, Darling-Hammond, & Grissmer, 1988).

With the advent of the Schools and Staffing Survey (SASS) in the early 1990s, additional and more accurate data have been available regarding the characteristics of the teacher labor pool. With better data, concerns over teacher quality have replaced projected shortages as the central school staffing issue (Baker & Smith, 1997). Boe (1996) found that although 99.5 percent of the teaching positions were filled, there was a serious shortage of teachers who were fully licensed for specific assignments. During the 1993-1994 school year, 16 percent of secondary English students, 22 percent of secondary math students, and 30 percent of secondary physics students were taught the subject by someone without a major or minor in the field, and out-of-field teaching was positively associated with the level of student poverty in the school (Baker & Smith, 1997). Out-of-field teaching was more likely to occur in low achievement and low track classes (Ingersoll, 1996).

Attrition is highest for teachers for teachers eligible for retirement and for teachers early in their career (Charters, 1970; Grissmer & Kirby, 1997; Mark & Anderson, 1985). At one time, teaching was a short-term career for younger women without families, but as teaching became a long term career (Rury, 1989), the teacher labor force became older, and retirement has caused an increasing share of teacher turnover (Grissmer & Kirby, 1997, NEA, 1986, 24). Ingersoll (1997) noted that turnover related to dissatisfaction with teaching as a career also contributes to hiring difficulties. Low salaries, problems with student discipline, and the absence of meaningful teacher involvement in school decision making are often reported as reasons for leaving teaching. Many individuals prepared to teach do not choose to do so (Barnes, Bass, & Wakeford, 1986; NEA, 1986; Sweet & Jacobsen, 1983; Schlechty & Vance, 1981, 1983). For example, a study of teacher supply in North Carolina revealed that four teachers were prepared by the state's teacher education programs for every one who taught in a North Carolina public school the year after graduation (Barnes, Bass, and Wakeford, 1986).

As teacher demand has increased, there have been increasing career opportunities outside of teaching for both women and minorities, and minority recruitment continues to be particularly challenging. In the mid-1980s, Barnes, Bass and Wakeford (1986) projected a decrease in the percentage of black teachers in North Carolina's teacher work force overall. Ward (1987) observed that local boards insist on hiring more minority teachers at a time when the supply of minority educators is limited. More recently, Lewis (1996) noted the increasing disparity between the numbers of teachers and students of color, possibly explained to some extent by increased opportunities in other fields and the effects of competency testing. In spite of increasing enrollments of students of color in teacher education programs, there have not been sufficient new teachers of color to match the changes in student enrollment in K-12 classrooms. From 1990-1991 to 1993-1994, the proportion of Black teachers fell from 8 to 7 percent, and the proportion of Hispanics rose from 3 to over 4 percent, far below the expected proportion of Black and Hispanic students (37 percent) in future years (Grissmer & Kirby, 1997, p. 53).

State and district personnel policies mediate between supply and demand forces, often changing during periods of shortage to allow positions to be filled (Haggstrom, Darling-Hammond, and Grissmer, 1988), and the effects of those changes on teacher supply will echo over the years (Zerfoss & Shapiro, 1972, 6-7). For example, in North Carolina, failure to fully fund the Basic Education Program, a legislated initiative to reduce class size and broaden curriculum offerings, has significantly altered the assumptions upon which a 1985 study of teacher supply and demand in North Carolina was based (Barnes, Bass & Wakeford, 1985). At the national level, President Clinton's recent proposal to provide 100,000 new teachers to reduce

class size (Viadero, 1998), if funded, will have serious effects for states and districts already dealing with teacher shortages.

In education, shortages are ultimately field-, grade- and location-specific (Stoddart and Floden, 1995). School enrollments vary by geographic location; and state boundaries, accentuated by unique certification requirements, hamper the mobility of the teacher labor pool. Economic, geographic, and cultural variations in teacher labor markets have also been observed "as local definitions of what constitutes a quality workforce are translated into specific everyday needs, limitations, and actions" (Berry & Hare, 1985, p. 29) creating the possibility that a balance between teacher supply and demand at the national level can be accompanied by large field-specific surpluses or shortages in a particular location (Haggstrom, Darling-Hammond, & Grissmer, 1988).

In the years ahead, Grissmer and Kirby (1997) predicted that teacher demand would be more complicated than the enrollment-driven demand of the 1960-1970s. They expected six factors to influence both the timing and magnitude of the demand for new teachers between 1998 and 2013: rising enrollments, lower pupil/teacher ratios, rising teacher attrition rates, early retirement plans, a shrinking teacher "reserve pool,' and the current queue of teacher entrants (p. 48). Based on projected enrollments through 2003, Velotta (1994) expected a need for additional secondary teachers and noted that projected needs could increase due to class size reductions and population shifts. Eubanks (1996) expected the urban teacher shortage to continue with needs for bilingual teachers, immediate openings for teachers in special education, middle grades, and high school, and a critical need for teachers of color.

The quality of the teacher labor pool. Because teaching positions seldom remain unfilled, it is difficult to determine the severity of a shortage without considering the qualifications of teachers hired (NEA,.1986). Haggstrom, Darling-Hammond, and Grissmer (1988) captured that challenge in their use of the term "legitimate supply." Some personnel actions taken in response to shortages raise quality issues: hiring competent teachers without proper training, hiring marginal teachers with proper training, assigning currently employed teachers to teach classes for which they are not trained or certified, and using substitute teachers with or without training (Barnes, Bass and Wakeford, 1986; Ingersoll, 1997). These hiring decisions make it difficult to project teacher demand, and they tend to have a disparate effect on students. School systems with the greatest needs often face the greatest difficulty in attracting and retaining quality teachers, and the effects are particularly damaging for students in urban, poor, and isolated rural areas (Baker & Smith, 1997; Eubanks, 1996; Ingersoll, 1997; Roth, 1990; Sykes, 1983).

Early concerns about the quality of the teacher labor pool were based upon observed declines in the standardized test results of students expressing interest in teaching careers or those enrolled in teacher preparation programs (Levin, 1974; Schlechty & Vance, 1981, 1983; Vance, 1981; Weaver, 1980). Schlechty and Vance (1982) found that individuals entering teaching during the 1970s were drawn from the lowest group of SAT-scorers, and that the most academically able were the least likely to enter teaching if they majored in education or to stay in teaching if they entered. Although SAT scores of education majors have usually been lower than scores of other students, the gap widened between 1972 and 1980, when the average SAT verbal and math scores fell by 29 and 31 points respectively (Council of Chief State School Officers, 1984). Galambos (1985) found SAT scores of education majors below those of students in arts and sciences by an average of 70 points.

Some have questioned the negative reports suggesting that comparisons of standardized test scores should focus on students who successfully complete traditional teacher education programs instead of those who indicate an interest in the teaching profession. Others observed that the teaching profession has traditionally drawn more than its fair share of talent and suggest that the changing characteristics of the teacher pool should come as no surprise as more career choices become open to women. Regardless of the weak link between tested academic ability and teaching performance, policymakers continue to have faith in the use of tests to screen teachers. Stoddart and Floden (1995) suggested that the decision to use standardized tests in the certification process marked a significant shift in the focus of certification from pedagogical competence to academic competence and a shift in the governance of certification from teacher preparation programs to the state and local agencies that monitor licensing requirements.

Concerns about the quality of the teacher labor pool also address the content of the college education of teachers. At one time, teacher candidates took fewer hours of general education, fewer total credit hours, and less upper level coursework (Haggstrom, Darling-Hammond, & Grissmer, 1988), but teacher education programs have been lengthened and strengthened in recent years. Zumwalt (1996) noted that "some of the problems in teacher education that stimulated interest in alternative certification have already been addressed by reforms in teacher education (p. 42).

Less able candidates, hired during periods of shortage become the tenured teaching force for the next two generations of American school children (Darling-Hammond, 1984). Questionable hiring practices contrast sharply with growing support for more rigorous standards, higher salaries, and improved working conditions for teachers as a strategy for increasing the quality of the teacher labor pool (Darling-Hammond, 1994; NEA, 1986). Some question whether standards for teachers can be increased during times of shortage, but in reviewing the hiring of teachers in the United States since 1750, Sedlak (1989) found evidence that standards have been raised significantly during periods of shortage. His analysis could strengthen arguments for higher standards in alternative certification programs designed to address declining size and quality of the teacher labor pool. Ingersoll (1997) cautions that programs designed to increase access to teaching without addressing the causes of teacher turnover and reducing the need for out-of-field teaching are misguided. Instead, he calls for teaching to be "treated as a highly valued profession, one requiring a great deal of knowledge and skill to do well" (Ingersoll, 1997, p. 44). Darling-Hammond (1994) adds the following challenge:

> Given the fact that fully half of the teachers who will be teaching in the year 200 will be hired over the next decade (and large-scale hiring will continue into the decade thereafter), this is a critical moment for transforming the capacity of the American teaching force by transforming the quality of their preparation. (p.14)

Who should teach? In the United States, the tradition of local control over the hiring of teachers continues to be strong. The centralization of certification at the state level has increasingly restricted the pool of teaching candidates, but flexibility enabling school officials to meet local staffing needs has been retained. Some flexibility is needed to respond to local diversity in teacher labor markets (Berry & Hare, 1985), but the effects of that flexibility can be both positive and negative. Schlecter (1987) observed that alternative certification policies were increasingly used by choice rather than to address shortages. While large segments of the American public might benefit from maintaining an open route into teaching for college graduates (Haberman, 1986), some alternative programs appear to be "dedicated essentially to

circumventing the professional educational and certification establishment by deregulating access to teaching positions" (Sedlak, 1989, p. 257). Stoddart and Floden (1995) noted an important distinction between current alternative route programs and earlier emergency provisions that allowed local districts to respond to shortages. Current programs allow candidates to earn a permanent teaching license without traditional college-based teacher education. "What began as a short-term measure to deal with teacher shortages is now becoming an institutionalized alternative to college-based education" (Stoddart & Floden, 1995, p. 1).

Warren (1989) observed that teachers have an "uncertain status as both objects and instruments of reform" (p. 2). There is considerable support for the view that traditional teacher education is of questionable value (Feistritzer & Chester, 1996; Sedlak, 1989; Uhler, 1987), and business and political leaders seem to believe "that if they could influence the supply, quality, and performance of public school teachers, both the quality of education and the economic well-being of the country could be restored" (MacPhail-Wilcox & King, 1988, p. 100). From a national perspective, alternative certification is seen as a strategy for minority recruitment, a way to attract teachers in math and science, and a means of guaranteeing to schools and communities the flexibility needed to build the teacher labor pool (Cross, 1989). Stoddart and Floden (1995) observed that if "knowing one's subject is a sufficient qualification to begin teaching" (p. 6), it becomes easier for the general public to sanction the hiring of teachers without professional preparation who can pass a subject matter exam.

The Current Status of Alternative Certification

According to the annual report of the National Center for Education Information, there are increasing numbers of alternative routes for preparing and certifying teachers. Forty-one states and the District of Columbia are implementing alternative certification, and all states have some type of program other than the traditional approved teacher education program route to licensure. Twenty-three states and the District of Columbia use alternative programs to attract talented individuals with undergraduate degrees in fields outside education to teaching, an increase of 11 programs since 1991. There are increasing numbers of college and university alternative programs, in addition to those operated by the states. Twenty-four states reported an increase in legislative interest in alternative programs, and twenty-five states reported increases in the number of candidates licensed to teach through alternative routes in the last five years. (See Feistritzer, 1997).

Alternative programs vary in content, length, location, and testing and other requirements for licensure. Stoddart and Floden (1995) identified critical choices: when to provide professional training, whether or not to provide professional training in the schools or in the college classroom, the content to be taught, the role of higher education in program development and implementation, and the balance between formal course work and supervised field experiences.

Among the typical, but not universal, requirements for entry into alternative programs are a four-year degree, a required grade-point average, and demonstrated content knowledge, ranging from documented experience or competence to a degree in the teaching area. Some programs are linked to an induction program. Some states require at least one standardized test, but the timing and the content of the test vary. Training prior to entering the classroom was required in some states, ranging from "some training" to a specified number of credit hours. Unfortunately, even

when training or orientation is required prior to the beginning of classroom teaching, it may not be provided. (For example, see Hawk and Schmidt, 1990.)

Alternative certification continues to provide non-costly ways for people to become teachers throughout adulthood, and it allows a broader range of people to enter teaching (Zumwalt, 1996). Feistritzer (1997) estimated that over 75,000 persons have been licensed to teach through state alternative programs in addition to thousands more who are being licensed to teach through college and university alternative programs.

The Effectiveness of Alternative Certification Programs

Alternative certification programs allow individuals to enter the teaching profession with different stocks of human capital as a result of their investments in either a liberal arts or a traditional teacher education program. Comparisons of traditionally prepared teachers with those who become teachers without completing an undergraduate teacher education program have come largely from evaluations of alternative programs around the country. Early efforts to evaluate or predict the success of alternative certification policies that gained momentum in the late 1980s drew heavily upon the teacher education research of the 1960s, suggesting that interest in this issue is highest during periods of teacher shortage when entry into the profession is more open (see Evertson, Hawley, & Zlotnik, 1985; Ashton, Crocker, & Olejnik, 1987). Both reviews found some evidence to support the need for professional training, but the issue was complicated by varied interpretations of "provisional" certification. Evertson, Hawley, and Zlotnik (1985) found teachers with professional training be more likely to be, or to be perceived as, more effective than those without formal training, and Ashton, Crocker, and Olejnik (1987) found consistent small differences favoring regularly certified teachers. However, both sets of authors, however, expressed concern about the quality of the research.

More recent research continues to be primarily descriptive of individual teachers or participants in specific programs, or it compares teachers with different stocks of professional training who have been certified differently (Bradshaw & Hawk, 1996). Studies of alternative certification have examined a variety of quality issues, including teacher knowledge, classroom performance, levels of job satisfaction, teacher efficacy, student achievement, beliefs, and attitudes. Performance on standardized tests has been most widely used as a measure of teacher ability and student learning (Otuya, 1992).

Alternative certification policies have increased the size of the teacher labor pool. Interest and participation in alternative certification programs is strong and continues to grow. Nationally, the NCEI data (Feistritzer, 1997) show increased numbers of reported state alternative programs, college and university alternative programs, and nontraditional teaching certificates. States and teacher education programs report increasing numbers of inquiries about alternative routes, applications to alternative programs, and program participants as well as the involvement of increasing numbers of school systems (Hutton, 1987; Schecter, 1987; Wale & Irons, 1990), and growing numbers of alternative certification programs are being developed by colleges and universities (Feistritzer, 1997). Alternative certification policies also allow school districts to expand the size of the local teacher labor pool. Eubanks (1996) identified three strategies used by urban districts: offering alternative certification programs through colleges or unions (53.5 %); allowing non-certified teachers to teach through emergency licensure, long-term substituting, provisional licenses, internships, or apprenticeships (76.9 %); and preparing teacher assistants for licensure (43.6 %).

As alternative routes into teaching have expanded the teacher labor pool, they have attracted college graduates with degrees outside education. Alternative candidates tend to be older than traditional candidates, and they are more likely to be male or minority (Bradshaw & Hawk, 1996). They often bring experience from careers outside education.

Other comparisons of alternative and traditional candidates show few differences between the two groups. Quantitative data seem to support arguments that alternative routes are attracting candidates at least equal in quality to graduates of teacher preparation programs. Test scores and grade point averages of alternative candidates tend to be strong (Bradshaw & Hawk, 1996). Performance appraisal data are mixed, but observed differences in evaluation ratings are often small, and performance ratings for alternative candidates are generally adequate. Some researchers have found differences in the area of classroom management (for example see Adelman, Michie, and Bogart, 1986). However, the performance of alternative candidates tends to improve over time, and Rosenberg and Rock (1994) found that differences disappeared by the end of the first year of teaching. Studies comparing the performance of the students of teachers with different preparation have also yielded mixed results. Stafford and Barrow (1994) found that differences were more related to teaching experience than type of teacher preparation.

Qualitative studies support concerns that teachers without professional training may lack sufficient understanding of curriculum and student ability and motivation to plan and organize instruction effectively (Bradshaw & Hawk, 1996). For example, Clarridge (1990) found that alternative candidates were less able to maintain student time-on-task, provide instructional feedback, assess student performance, and present subject matter effectively.

Studies comparing the classrooms of traditionally and alternatively prepared teachers also report mixed results. Knight (1991) observed that alternatively prepared teachers provided fewer opportunities for students to engage in higher-level thinking, and there was more friction among their students. On a positive note, however, Stoddart (1993) found alternatively prepared teachers more likely to communicate higher expectations of low income and minority students, less likely to rely on drill and practice, and more committed to developing instructional practices that were responsive to the needs of diverse learners. These results suggest that in spite of strong content knowledge, alternative candidates may experience more difficulty with pedagogical content knowledge, the theory and research that informs the way content is presented in the classroom so that students will be able to understand and use it.

In summary, the research base comparing the quality of alternatively and traditionally certified teachers is not large. The available studies have tended to evaluate state programs or to compare groups of teachers participating in specific programs. Synthesis of results is difficult because of differences in types of certification and the variation in quality and length of professional training that has been provided to the groups being compared.

The tendency for current studies to find few or mixed differences among traditionally and alternatively certified teachers appears to support arguments that alternative certification programs are attracting candidates at least equal in quality to graduates of traditional teacher preparation programs and that these programs are preparing needed teachers in an innovative and cost-effective way. Selection criteria for admission to alternative programs and the content, length, and method of delivery of training for alternative candidates before they enter the classroom could explain some of the apparent success. Further study is urgently needed, and Zumwalt (1996) suggested that the most important finding of the mixed research results to date

"may be that the recruitment, preparation, and retention of teachers is much more complex than originally thought by policymakers" (p. 41).

Implications

The policy, practice, and results of alternative certification raise a variety of issues for teacher educators, state and district administrators, and policymakers. There are new opportunities for program development and research. The contradictions in the effects of alternative certification policy and other education reforms call for collaborative efforts among all stakeholder groups.

New Opportunities for Teacher Educators

Continuing interest in alternative certification programs reflects a lack of consensus regarding the value of professional training for teachers. Apprenticeships were used in early city training schools (Johnson, 1989), and the relative amounts of professional and academic training were debated even in the days of the normal schools (McKenna, 1965). A potential strength of alternative routes to teaching rests with the content knowledge of the participants. However, Marchant (1990) noted that neither principals nor beginning teachers have identified content knowledge as a major problem for beginning teachers, and "research suggests that knowing the subject matter does not necessarily make a person a good teacher of that subject" (Evertson, Hawley, and Zlotnik, 1985; Stoddart & Floden, 1995).

Teacher education has been a policy arena within which outsiders could act easily without serious political costs (Hawley, 1990). Alternative certification policies allow states to apply and release pressure on teacher education (Clark & McNergney, 1990). As school systems have become less dependent upon teacher education graduates to meet their staffing needs, teacher educators have had less input into the certification process. Teacher educators tend to respond to alternative certification programs by urging efforts to ensure their quality, by opposing them, or by ignoring them. Those who question alternative certification find themselves in an uncomfortable position: "Criticism . . . is seen as self-serving, and legitimate concerns for the education of future teachers becomes suspect when voiced by teacher education faculty" (Barnes, Salmon, and Wale, 1989, p. 8).

The tendency for state-level policymakers to respond to teacher shortages and concerns about teacher quality by raising standards for traditional entry to teaching at the same time they relax requirements to allow those not trained as teachers to enter teaching has created a climate where alternative certification programs "operate in tension with state initiatives to increase regular certification requirements" (Haggstrom, Darling-Hammond, & Grissmer, 1988, pp. 4-5). Stoddart and Floden (1995) described "two worlds" - college-based programs with increasing admission standards, higher SATs, higher GPAs for entering and exiting programs, longer programs (5 or 6 years), and a variety of state mandates regarding content and courses and another world where "college graduates (or, as in Texas, anyone with "some" college) can simply find a district to hire them" (p. 2). Funding issues have the potential to increase this tension between alternative and traditional programs. In Florida, for example, the law which defined requirements for candidates in the alternative certification program also diverted funds from colleges of education to school districts implementing alternative certification programs (Feistritzer, 1984, p. 3).

Alternative certification programs have eliminated the monopoly on teacher education programs once held by colleges and universities (Stoddart & Floden, 1995). At the same time,

alternative certification programs have provided new roles for teacher educators. McKibbin (1998) called for collaborative efforts to develop high quality innovative alternative certification programs allow school districts to provide practical training for novices with university help to "weave theory, modeling, and practice into a coherent package" (p. 35). Natriello (1992) recognized that alternative route programs have contributed at least four important elements to a broader strategic vision of teacher preparation: more active roles for state and local education agencies in the recruitment and preparation of teachers, more attention to selection as a means of improving teacher quality, examination of the content of teacher education programs, and consideration of the potential role of schools in teacher preparation. (p. 8)

Alternatively certified teachers are more likely to be placed in hard-to-fill positions and they are often teaching with prior training. Those conditions intensify the need for support for the new teachers and for collaborative work with local district staff developers and other administrators and supervisors who are charged with overseeing the induction of these new candidates into the profession (Feistritzer, 1984; Huling-Austin, 1986; Shulman, 1989). For example, in the area of vocational education, Erekson and Barr (1985) found that alternative programs had little impact on the size of college and university vocational education programs, but had "greatly increased the need for inservice programs."

While alternative certification programs may be cost-effective programs for preparing teachers (MacPhail-Wilcox & King, 1988; Mishima, 1987), the consequences of the programs are unknown, and the concept "is at odds with the very definition of a profession" (MacPhail-Wilcox & King, 1988). Other professions do not allow untrained individuals to practice (Roth, 1986); instead, differentiated roles are used to balance supply and qualifications (Darling-Hammond, 1990). "Because of their inability to agree upon a body of foundational knowledge about teaching, teacher educators helped give impetus to the creation of alternative routes" (Galluzzo & Ritter, 1986, p. 2), and in the absence of strong evidence to link the effectiveness of teachers to increased coursework or increased certification requirements (Hawk, Coble & Swanson, 1985, p. 13), alternative routes to teaching are likely to remain open.

The Need for Research

Natriello (1992) suggested that the alternative route to teaching is like many other educational innovations, "an idea that has been widely adopted well ahead of evidence of its effectiveness" (p. 7). While there have been a few quantitative studies comparing alternatively certified teachers and their traditionally certified counterparts, much of the research has been qualitative in nature. Specifically, case study analyses have focused on the reasons for entering teaching, the challenges faced, and the degree to which alternatively certified teachers have been able to meet those challenges. Stoddart and Floden (1995) concluded that most research has focused on program requirements and demographic characteristics of alternative route candidates without addressing how long they stay in teaching, what kind of teachers they become, or what effect they have on student learning. They feared that "these initiatives will institutionalize still untested assumptions about the professional training of teachers: that teachers, unlike other professionals, do not need university-based professional training; that teachers' knowledge and skills develop in simple ways – through knowing their subject, through learning to teach on the job, or by being a 'natural teacher'" (Stoddart & Floden, 1995, p. 3). Evaluation and research are needed to test those assumptions and answer questions such as the following:

- What is the relationship between knowing one's subject and being able to teach it effectively?
- Should pedagogical content knowledge be developed before individuals begin full-time teaching, or can it be developed as they teach?
- What are the consequences of learning to teach on the job?
- What is the effect of maturity and prior work experience on teaching effectiveness?
- What effect to different teacher preparation programs have on student learning?

Additional studies are needed to clarify the needs of teachers who enter the classroom without professional preparation and to determine how best to address those needs. Retention rates of alternatively certified teachers over time and the effects of alternatively certified teachers on the workplace (Barnes, Salmon, & Wale, 1989) need to be explored. Additional case studies are needed to enrich our understanding of the relationship between professional knowledge and professional preparation for teachers (Grossman, 1989). Otuya (1992) states the issue clearly:

> If subject-matter competence combined with pedagogical training is the determinant of effective instruction, then the traditional certification route is the most effective policy to assure educational quality. However, if subject-matter competency without pedagogical training is equally determinant of effective instruction, then alternative certification is equally a viable policy. (p. 2)

In states where large numbers of individuals are entering teaching through alternative routes, the effects must be determined and evaluated. Ultimately, each alternative certification policy must be assessed locally, because each may have different effects in different contexts (Zumwalt, 1996). Evertson, Hawley, and Zlotnik (1985) acknowledged that teacher education research "is often of dubious scientific merit and frequently fails to address the types of issues about which policy makers are most concerned." Major policy decisions continue to be made in support of alternative certification programs, and the need for quality research to assess the effects of those programs is urgent.

Contradictions in the Effects of Alternative Certification Policy

Policy makers have responded to teacher shortages and concerns about the quality of public school graduates with an array of policies and legislation. With major policy decisions continuing to be made in support of alternative routes to teaching, more rigorous research must be accompanied by serious efforts to examine the contradictory effects of many of those decisions, as illustrated by the following examples.

- Standards are raised for teacher preparation programs, at the same time requirements for alternative routes to teaching are relaxed.
- Colleges and universities are held accountable for the quality of teacher education programs through increased accreditation requirements, while monitoring to hold school districts accountable for the preparation of alternative certification candidates is less stringent if it exists at all.
- Teaching is becoming more complex and requires more extensive training, but alternatively certified teachers enter the classroom with little or no training.
- A strength of teachers who enter through alternative routes is their strong content knowledge, but research suggests that strong content knowledge does not assure teaching effectiveness.

- Testing requirements for teacher licensure are continuously changed and increased, even though no data have been gathered to show the relationship between student achievement and teacher test scores.

These contradictions must be addressed in order for local districts, institutions of teacher education, and state education agencies to work collaboratively to address the needs of candidates who enter teaching through alternative routes and to protect the interests of students in their classrooms. Recruitment and development strategies should support student learning. Long-term solutions to teacher shortages must be found. Alternative certification has deregulated teacher preparation at a time when fundamental reforms are taking place in teacher education and in the understanding of teaching and learning. It is not necessary to make a choice between traditional and alternative teacher preparation programs. The issue is more complex than "investing in an extended professional education for teachers based on an established pedagogical knowledge base or returning to an apprenticeship system" (Stoddart & Floden, 1995, p. 3). It is important, however, for teacher educators, district administrators, state agency representatives, and policymakers to work collaboratively to find the balance that is in the best interest of teacher candidates and the students they teach. That balance will vary from one context to another, and it must not be achieved at the expense of any stakeholder group.

Conclusions

Studies of alternatively certified teachers enrolled in specific preparation programs have generally found few differences among these candidates and traditionally certified first-year teachers. Except for evaluations of state programs, sample sizes have tended to be small, sampling techniques limited, and results not generalizable. Because the alternatively certified candidates studied have been enrolled in some kind of innovative preparation program, albeit limited, initial differences may have been masked by the effect of the training program itself.

As shortages in teacher supply and quality have become more evident, particularly at the local level, state alternative certification policies have increased local flexibility in filling vacant positions. Because the general stock of human capital of liberal arts graduates is perceived to be more valuable than the more specific stock of human capital acquired by traditional teacher education graduates, and because liberal arts graduates incur less investment cost, alternative certification policies appear to have created routes to teaching that are economically more attractive than traditional routes. While teacher education did not seem to be a viable course of study for many college graduates during their undergraduate years, teaching has become a viable occupational choice through alternative certification programs. Increasing numbers of individuals enter teaching through the alternative routes, and there is an urgent need to examine the effects of current alternative certification policies in order to inform evolving policy decisions.

During this time of increased demand and higher standards for traditionally prepared teachers, "over 50,000 teachers annually have been entering teaching on emergency or temporary certificates with little or no preparation at all" (Darling-Hammond, 1994, p. 2). A statement by the National Commission on Teaching and America's Future appears to seek a balance between the two worlds of teacher preparation. Although they express concern for questionable hiring practices, they "applaud the growing number of teacher education institutions that have developed alternative routes to teaching" and support broadened "high-quality pathways into

teaching, particularly in high-need areas, for recent graduates, midcareer entrants, military and government retirees, and paraprofessionals already in the classroom" (National Commission on Teaching and America's Future, 1996, p. 92). There is growing recognition of the room for improvement in both traditional and alternative teacher preparation programs, with quality options for individuals who do not choose traditional undergraduate teacher education programs (Stoddart & Foden, 1995; Wolpert, 1996; Zumwalt, 1996). It is important to ensure that that the alternatives "do not undermine current efforts to upgrade and professionalize teaching" (Zumwalt, 1996, p. 42). That challenge will require stronger collaboration among schools, colleges, state agencies, and other professional and private groups.

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